

Digital Native Learning Framework:

The 3-Rs Become the 4-Es

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Digital Immigrants and Digital Natives

— [Today, we as educators find ourselves in a “new world”. Digital technology has transformed our classrooms and changed our students in ways we often do not understand.

— [Author Marc Prensky holds that we, like our forefathers who immigrated to America long ago, are “Digital Immigrants”, strangers in this new digital world. However, our children are “Digital Natives”, born and raised in this digital world, free of the constraints and customs of the “old world” we knew.

A Brave New World

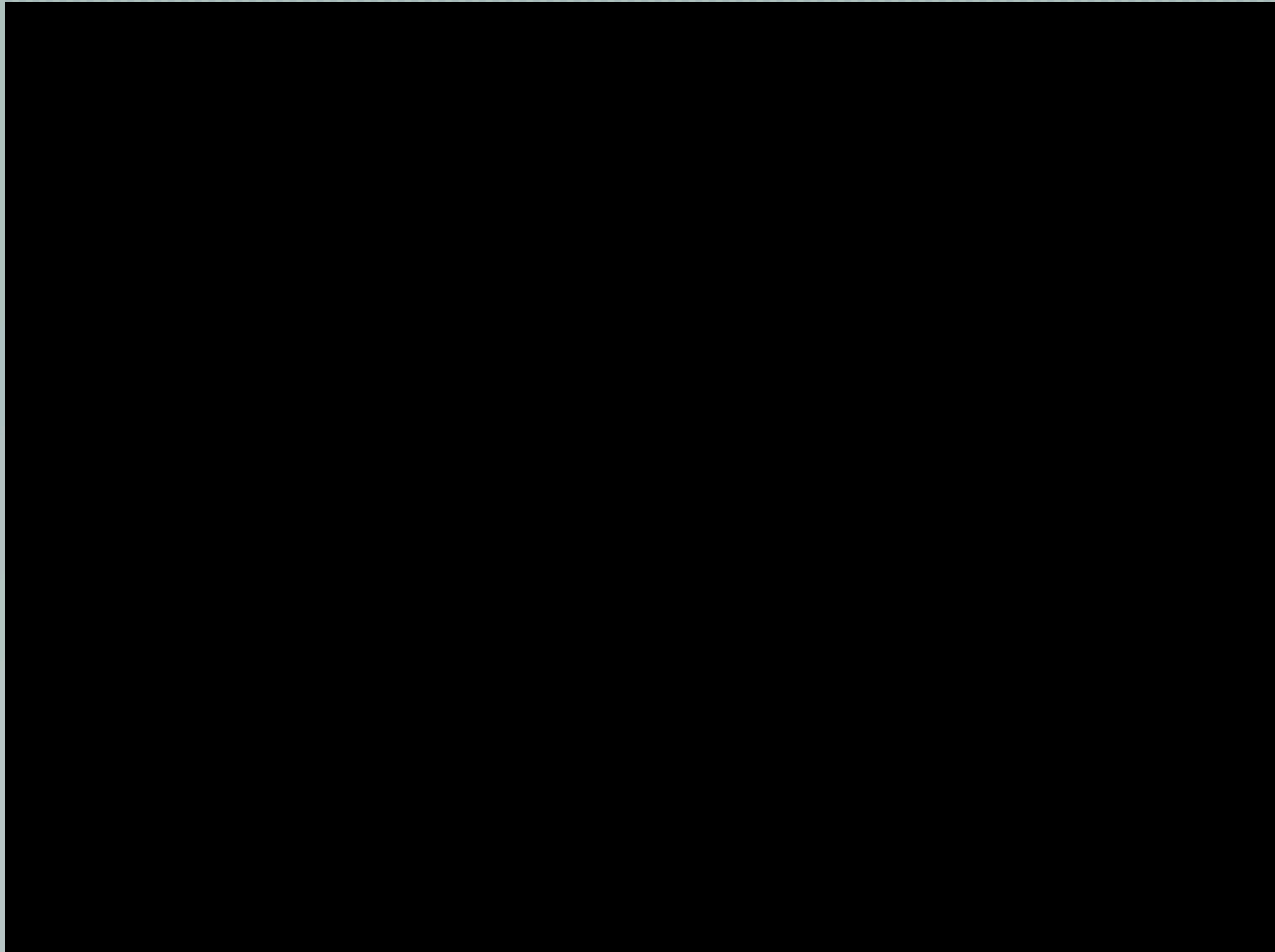
— [Marc Prensky (2005) states that “Our students are no longer ‘little versions of us,’ as they may have been in the past. In fact, they are so different from us that we can no longer use either our 20th century knowledge or our training as a guide to what is best for them educationally.”

— [We as Digital Immigrant teachers are incapable of seeing this brave new world through our children’s eyes. We fear their new customs, and see hidden dangers everywhere.

Teaching in the New World

- [If our Digital Native students are so fundamentally different from us, how do we reach them? How are we to teach them?
- [As immigrants, we must explore the new landscape, learn how the natives communicate, and adopt their customs and their ways. We must, as Prensky suggests, “Listen to the Natives” to see a vision of the digital world, and ourselves as teachers, through their eyes...

A Vision of K-12 Students Today



Source: Nesbitt, B. J. (2007). A Vision of K-12 Students Today. YouTube. Retrieved April 12, 2010, from http://www.youtube.com/watch?v=_A-ZVCjfWf8

A Sobering Vision

- [We now have a clearer, but sobering, vision of how our students view their world, our schools, and us as teachers.
- [In the eyes of these Digital Natives, school is literally a “turn off” as we ask them to turn off their iPods, their smart phones, and all their other personal digital technology.
- [Traditional teaching methods do not engage our students or prepare them for a future where change is the only constant.

Changing Course

— [If we are serious about improving student achievement, we must change course, and restructure to address the needs and learning styles of our Digital Native students.

— [An analysis of our new vision of our students demonstrates that there are two key areas we must address:

- Increasing access to Digital Native technology tools
- Developing a new model of learning

Digital Natives Inside; Tools Included

- [The students inside of our classrooms today need unfettered access to their native technology tools. Happily, almost every student comes equipped with their own tools!
- [We must change our policies and perceptions, and let our students use their own tools, freely intermixed with tools and access to content that we provide. We must let our Digital Natives use the “WWW”- Whatever, Whenever, Wherever, providing an added bonus for us of instant 1:1 computing.

Developing a Learning Framework

— [When we look at our schools in this new digital world, we can take nothing for granted. We must re-evaluate everything we have learned, and all our instructional practices, and then translate them into the Digital Native lexicon.

— [In short, we must develop a new learning framework for our Digital Native students. Our new model overthrows honored traditions; even the old standby “3-Rs” must be transformed to become relevant and engaging for these students.

The 3-Rs Become the 4-Es

— [According to Sara Armstrong and David Warlick (2004),
“Whether we like it or not, with the information age comes a whole new set of basic skills... the traditional 3-Rs, naturally and out of necessity, evolve into 4-Es to define literacy in an increasingly, and soon to be exclusively, digital and networked world”

Reading → Exposing Knowledge

— [Basic skills for today's students include the following:

1. Finding Information: Using search tools and employing research strategies.
2. Decoding Information: Reading deeply for meaning in multimedia content.
3. Evaluating Information: Evaluating information encountered and identifying it in terms of their goals.
4. Organizing Information into Personal Digital Libraries: When students create and organize information that is relevant to their ongoing interests and goals, then they can handily find answers to their questions.

Arithmetic → Employing Information

— [Learning to process any and all information requires:

1. **Basic Mathematical Skills:** Students must understand basic computational skills as well as the fundamental laws of numbers, and how to use these concepts to answer questions, solve problems, and accomplish goals.
2. **Computer-aided Processing of Numbers:** Students must learn to process large quantities of digital data using spreadsheets and other data processing tools.
3. **Processing Media:** All formats of information can be moved into powerful graphic, sound, and video processing software and altered to communicate in a more precise and compelling way, adding value to information.

Writing → Expressing Ideas Compellingly

— [Students must master a range of practical and technical skills involved in expressing ideas effectively and compellingly:

1. **Writing Effectively:** Students must learn not only the mechanics of writing, but how to use text to communicate knowledge and ideas more efficiently than ever.
2. **Communicating with Multimedia:** Students must also learn to match their message with the medium that best communicates it, and then use the appropriate tools to create and or modify it in order to attract the attention of an audience.

The 4th E: Ethics

Right and Wrong on the Information Highway

— [We must teach our students to ethically use information and to respect information property and infrastructure:

1. Information Reliability: Students must learn to assess the accuracy of the information that they access and use, and to provide evidence of the accuracy and reliability of the information products they assemble.
2. Information Property: It is important that students gain an appreciation of information as property that needs to be respected.
3. Information Infrastructure: Students must realize the importance of our information infrastructure and how critical it is to our success in the future.

Transformation through Implementation

— [When implementing our new vision of Digital Native learning, it is no longer sufficient to merely integrate technology in the classroom; we must implement all technologies by embedding them throughout the curriculum and the school to transform the learning process.

— [Schacter and Fagnano (1999) state that “Applied effectively, technology implementation not only increases student learning, understanding, and achievement but also augments motivation to learn, encourages collaborative learning, and supports the development of critical thinking and problem-solving skills.”

The Power of Cooperative Learning

- [Our Digital Native students are always connected to each other and to information via technology. Interaction is a way of life for these students, yet we still emphasize individual achievement. Cooperative learning is essential at all levels.
- [Johnson, Johnson and Stanne (2000) note that “When students work in cooperative groups, they make sense of, or construct meaning for, new knowledge by interacting with others.”

Web 2.0 Tools Foster Creativity

- [Digital Natives rely on Web 2.0 Tools (wikis, blogs, social networking, Google Docs) to collaborate, remix content, and synthesize knowledge; yet we currently block many key sites.
- [Gwen Solomon and Lynne Schrum (2007) explain that “The old way of doing things is presentation-driven; information is delivered and tested.”, and emphasize that “The new way is collaborative, with information shared, discussed, refined with others, and understood deeply.”

Listen to the Natives

— [We must change our policies and attitudes towards classroom use of Web 2.0 applications and student-owned technology tools. As educators, we must overcome our fears and “listen to the natives” in order to engage and motivate our students.

— [According to Emily Rhoades (2009) “Today's faculty members (elementary through college) are using podcasts, wikis, chat rooms, online curricula and virtual realities to help students become successful in the classroom.”

Policy Implications

— [There are significant policy implications that accompany our Digital Native Learning Framework. Changes are required to:

- Content Filtering and Blocking Policies
- Acceptable Use and Web Publishing Policies
- Student Codes of Conduct and Handbooks
- Class Policies and Individual Work Policies

Time to Shift the Paradigm

— [Change is never easy, especially with stakeholders as varied as school leaders, board members, community members, parents, and our government. However, we as educational leaders must communicate the importance of this change in enabling ways that promote buy-in from all stakeholders.

— [We have all experienced paradigm shifts; it is now our time to lead the Digital Native Paradigm Shift, making our schools 21st Century relevant and engaging havens for our students.

Our Children's Future is in Your Hands...

— ["As for the future, your task is not to foresee it, but to enable it."

- Antoine de Saint-Exupéry

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